

ABSTRACT

The (run, level) pairs in an original series are inspected to determine whether or not modification of the (run, level) pairs would produce a desirable decrease in a number of bits required for variable-length encoding of the series of (run, level) pairs, despite introduction of noise. If so, the (run, level) pairs are modified prior to variable-length encoding. For example, a (run, level) pair of (M, N) is modified by substitution of a first (run, level) pair of (M-1, 1) immediately followed by a second (run, level) pair of (0, N). A lookup table or testing of predetermined ranges of run length and level magnitude provides a fast determination of whether or not to modify a (run, level) pair. The decoder can be programmed to reduce the noise introduced by this process by recognizing and rejecting (run, level) pairs that are likely to have been inserted during the encoding process.